

Amendment and Response

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Serial No. 10/019,643

Filed: December 28, 2001

METHOD AND COMPOSITION FOR AFFECTING REPRODUCTIVE SYSTEMS

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1.-3. **(Canceled)**

4. **(Currently Amended)** A method for treating or preventing a reproductive disease, disorder, or condition in a bird comprising administering to the bird ~~organism~~ an immunogenic composition comprising a polypeptide comprising a zona pellucida protein or an immunogenic fragment thereof.

5. **(Canceled)**

6. **(Previously Presented)** The method of claim 4 wherein the reproductive disease, disorder or condition is selected from the group consisting of egg-binding disease, dystocia, egg-related peritonitis, oophoritis, neoplasia of the reproductive tract, prolapsed oviduct and cloaca, salpingitis, metritis, oviduct impaction, cloacal problems, cystic hyperplasia, ectopic egg formation, chronic egg laying and undesirable behavior as a result of reproductive activity or reproductive problems.

7.-11. **(Canceled)**

12. **(Previously Presented)** The method of claim 4 wherein the zona pellucida protein is a glycoprotein.

13. **(Previously Presented)** The method of claim 4 wherein the zona pellucida protein is a naturally occurring protein.

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14. **(Previously Presented)** The method of claim 4 wherein the zona pellucida protein is a recombinant protein or synthetic protein.
15. **(Previously Presented)** The method of claim 4 wherein the zona pellucida protein comprises at least one zona pellucida protein selected from the group consisting of a porcine zona pellucida protein and an avian zona pellucida protein.
16. **(Currently Amended)** The method of claim 4 wherein the polypeptide further comprises a T cell epitope, a helper T cell epitope or a B cell epitope.
17. **(Previously Presented)** The method of claim 4 wherein the immunogenic composition further comprises an adjuvant.
18. **(Original)** The method of claim 17 wherein the adjuvant is selected from the group consisting of Freund's Complete Adjuvant, Freund's Incomplete Adjuvant, Freund's mycotoxin-free adjuvant, aluminum hydroxide, a cell wall extract derived from non-pathogenic *Mycobacteria* spp., a long-chain polydispersed $\beta(1,4)$ linked mannan polymer interspersed with O-acetylated groups, permulium and synthetic trehalose dicorynomycolate (STDCM).
19. **(Original)** The method of claim 18 wherein the adjuvant is selected from the group consisting of aluminum hydroxide and STDCM.
20. **(Previously Presented)** The method of claim 18 wherein the adjuvant is aluminum hydroxide.
21. **(Previously Presented)** The method of claim 4 wherein the immunogenic composition excludes an adjuvant.
22. **(Canceled)**

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23. **(Previously Presented)** The method of claim 4 wherein the immunogenic composition comprises a zona pellucida protein or immunogenic fragment thereof.

24.-26. **(Canceled)**

27. **(Previously Presented)** The method of claim 4 wherein the immunogenic composition comprises an immunogenic conjugate comprising a zona pellucida protein or a fragment thereof, conjugated to a carrier molecule.

28. **(Previously Presented)** The method of claim 27 wherein the immunogenic conjugate is dually functional.

29. **(Currently Amended)** A method for affecting the reproductive system of a bird comprising administering to the bird organism an immunogenic composition comprising an immunogenic conjugate comprising a zona pellucida protein or fragment thereof conjugated to a carrier molecule.

30.-40. **(Canceled)**